STURMEY-ARCHER

THE GEARS THAT MAKE CYCLING EASY
THE BRAKES THAT MAKE CYCLING SAFE

RANGE OF HUBS

STURMEY-ARCHER

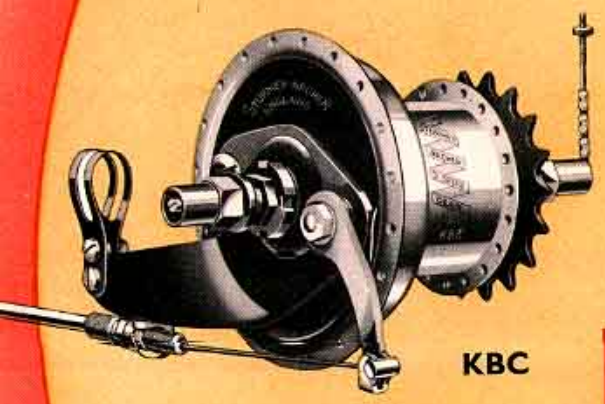
Aids to Cycling

KS CLOSE RATIO 3-SPEED GEAR. Designed to meet the exacting demands of clubmen and other enthusiastic wheelers, particular attention has been paid to keeping the weight down.

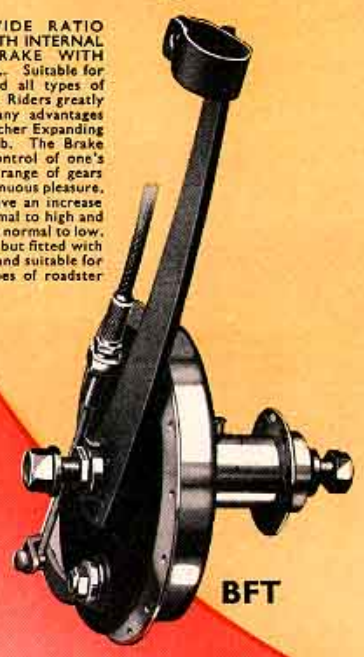
A splined sprocket facilitates quick removal to enable a different size sprocket to be fitted to provide a variation in ratios. Wing nuts and quick release connections are standard fitments. The gear ratios give an increase of 12·5% from normal to high, and 11·1% decrease from normal to low.

Suitable for clubmen and riders of all types of sports machines and tandems.

KSW MEDIUM RATIO 3-SPEED HUB. This is the same type as the KS but with slightly wider ratios, giving 16·6% increase from normal to high and 14·3% decrease from normal to low. Suitable for clubmen and riders of all types of sports machines and tandems.

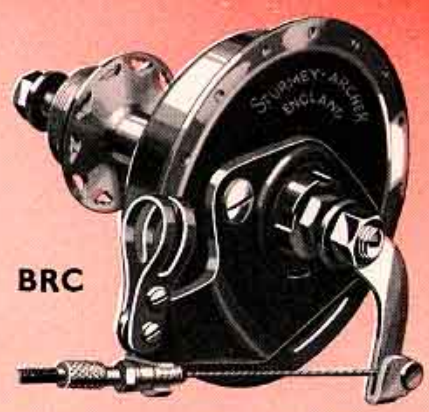


KBC STANDARD WIDE RATIO 3-SPEED HUB WITH INTERNAL EXPANDING BRAKE WITH CABLE CONTROL. Suitable for tourist, sports and all types of roadster machines. Riders greatly appreciate the many advantages of the Sturmey-Archer Expanding Brake 3-speed Hub. The Brake ensures perfect control of one's machine, and the range of gears make riding a continuous pleasure. The Gear ratios give an increase of 33⅓% from normal to high and 25% decrease from normal to low. KB similar to KBC but fitted with rod brake control and suitable for tourist and all types of roadster machines.



BFT TANDEM FRONT HUB with internal expanding brake with large diameter (4½) brake drum. Operated by cable brake control.

Suitable for all types of tandems.



BRC REAR SINGLE SPEED HUB WITH INTERNAL EXPANDING BRAKE and cable control. Suitable for sports and sports tourist machines.

BR hub similar to BRC but having rod control and suitable for tourist and roadster machines.

BRD hub similar to BR but suitable for use in conjunction with derailleur gear.

BRCD hub similar to BRC but suitable for use with derailleur gear.

A.R. ULTRA-CLOSE RATIO 3-SPEED GEAR TABLE

Bracket Chain Wheel	Hub Sprocket	26 in. Wheels. Low	Normal	Top	27 in. Wheels. Low	Normal	Top	Bracket Chain Wheel	Hub Sprocket	26 in. Wheels Low	Normal	Top	27 in. Wheels Low	Normal	Top
40	14	69.2	74.2	79.6	71.9	77.1	82.7	46	14	79.6	85.4	91.6	82.7	88.7	95.2
	15	64.6	69.3	74.3	67.1	72	77.3		15	74.3	79.7	85.5	77.2	82.8	88.8
	16	60.6	65	69.7	62.9	67.5	72.4		16	69.6	74.7	80.1	72.3	77.6	83.2
	17	57.1	61.2	65.6	59.2	63.5	68.1		17	65.5	70.3	75.4	68.1	73	78.3
	18	53.9	57.8	62	55.9	60	64.3		18	61.9	66.4	71.2	64.3	69	74
42	14	72.7	78	83.6	75.5	81	86.9	48	14	83.1	89.1	95.6	86.3	92.5	99.2
	15	67.9	72.8	78.1	70.5	75.6	81.1		15	77.6	83.2	89.2	80.6	86.4	92.7
	16	63.6	68.2	73.1	66.1	70.9	76		16	72.7	78	83.7	75.5	81	86.9
	17	59.8	64.2	68.8	62.2	66.7	71.6		17	68.5	73.5	78.8	71.1	76.2	81.7
	18	56.6	60.7	65.1	58.7	63	67.6		18	64.6	69.3	74.3	67.1	72	77.2
44	14	76.2	81.7	87.6	79.1	84.8	91	50	14	86.6	92.9	99.7	89.9	96.4	103.5
	15	71.1	76.3	81.8	73.8	79.2	85		15	80.9	86.7	93	83.9	90	96.5
	16	66.6	71.5	76.7	69.2	74.2	79.6		16	75.8	81.3	87.2	78.7	84.4	90.5
	17	62.7	67.3	72.2	65.2	69.9	75		17	71.3	76.5	82.1	74	79.4	85.1
	18	59.3	63.6	68.2	61.5	66	70.8		18	67.3	72.2	77.5	69.9	75	80.4

NOTE.—Low and Top Gears are approximately those given by one tooth more or less on the Hub Sprocket.

GEAR RATIOS. The ratios are designed to meet the need of riders who desire gears equal to a difference of one tooth up or down on the hub sprocket. The "AR" Hub gives approximately this ratio. Normal gear is a direct drive, calculated in the usual way; top gear is 7·24% increase over normal; low is 6·76% decrease from normal.

ELIMINATION OF FRICTION. The gear trains have been designed to reduce the rotating speed of all the gear parts to the lowest possible figure, and this slow speed, together with the care given in manufacture, has produced a hub which is almost frictionless. All the bearings are designed to give the minimum friction loss, and all of them run in oil, so ensuring sweet running and long life. A specially designed dust cap is employed on both cones which effectively keeps out all grit and water, while still leaving the hub perfectly free. **Absolutely no friction** at this point whatever.

GEAR CHANGE. An entirely new type of gear change has been introduced in this hub, and in changing gear no skill whatever is necessary in timing the movement of the gear lever with the pedalling action. The hub will positively change gear under all conditions, whether driving or free-wheeling. The only indication of a change of gear is a slight forward movement of the pedals which occurs automatically on changing gear either up or down.

AR ULTRA CLOSE RATIO 3-SPEED HUB. 7·24% increase. 6·76% decrease. The new AR Ultra-Close ratio 3-speed Sports Hub has been designed expressly for fast road work, and is a worthy addition to the long line of 3-speed hubs which have "led the field" for more than 30 years. It has clearly demonstrated itself to be absolutely weather-proof, trouble-proof, and a revelation in easy, effortless gear changing. No other gear can possibly give sweeter, easier, or more effortless riding.

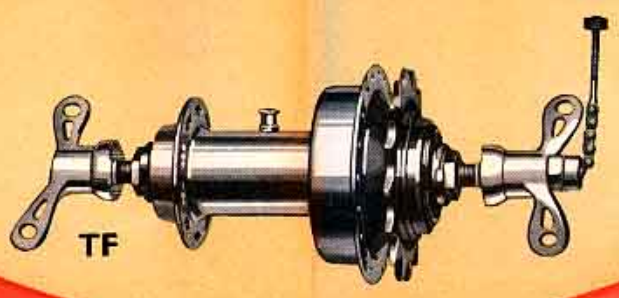
Comments by Two Famous Record Breakers about the AR Hub.

"This is the Hub that helped me break the Edinburgh—London, Land's End—John o'Groats, and 1,000 Miles Records. It's exactly what we racing men have always been looking for—a totally enclosed **hub** gear with a really close ratio. I'll never ride without it."

(*Signed*) "SID." FERRIS.

"My recent success in the ride from London—Portsmouth and back in 6 hours, 33 minutes, 57 seconds (in spite of rough weather and punctures), could not have been accomplished without the invaluable assistance I derived from the use of the AR Ultra Close Ratio 3-speed Gear."

(*Signed*) "BERT" JAMES.



T 2-SPEED HUB with free wheel, suitable for all types of solo or tandem machines.

TF Similar to T but with fixed sprocket, suitable for clubmen and riders of all sports machines and tandems.

T., TF., 2-SPEED GEAR RATIO TABLE

LOW GEAR GIVES 25% REDUCTION FROM NORMAL

Chain Wheel	Hub Sprocket	26 in. Wheels Low	Normal	28 in. Wheels Low	Normal	Chain Wheel	Hub Sprocket	26 in. Wheels Low	Normal	28 in. Wheels Low	Normal
40	15	52	69.3	56	74.6	46	15	59.8	79.7	64.5	85.9
	16	48.8	65	52.5	70		16	56.1	74.7	60.4	80.5
	17	45.9	61.2	49.5	65.9		17	52.8	70.3	56.9	75.8
	18	43.4	57.8	46.7	62.2		18	49.8	66.4	53.7	71.5
	19	41.1	54.7	44.2	58.9		19	47.2	62.9	50.9	67.8
	20	39	52	42	56		20	44.9	59.8	48.3	64.4
42	15	54.6	72.8	58.8	78.4	48	15	62.4	83.2	67.2	89.6
	16	51.2	68.2	55.2	73.5		16	58.5	78	63	84
	17	48.2	64.2	51.9	69.3		17	55.2	73.5	59.4	79.1
	18	45.6	60.7	49	65.3		18	52	69.3	56.1	74.7
	19	43.2	57.5	46.5	61.9		19	49.3	65.7	53.1	70.7
	20	41	54.6	44.1	58.8		20	46.8	62.4	50.4	67.2
44	15	57.3	76.3	61.6	82.1	50	15	65	86.7	70	93.3
	16	53.7	71.5	57.8	77		16	61	81.3	65.7	87.5
	17	50.5	67.3	54.4	72.5		17	57.4	76.5	61.8	82.4
	18	47.7	63.6	51.3	68.4		18	54.2	72.2	58.4	77.8
	19	45.2	60.2	48.6	64.8		19	51.3	68.4	55.3	73.7
	20	42.9	57.2	46.2	61.6		20	48.8	65	52.5	70

THE ABOVE TABLE SHOWS THE COMPLETE RANGE OF RATIOS AVAILABLE WITH FIXED SPROCKETS. THESE MAY BE OBTAINED WITH 15 TO 20 TEETH INCLUSIVE. IF A FREE-WHEEL IS DESIRED, ONLY THE STANDARD SPROCKETS OF 16, 17, 18, 19 AND 20 TEETH GIVING THE RATIOS SHOWN ABOVE ARE OBTAINABLE.

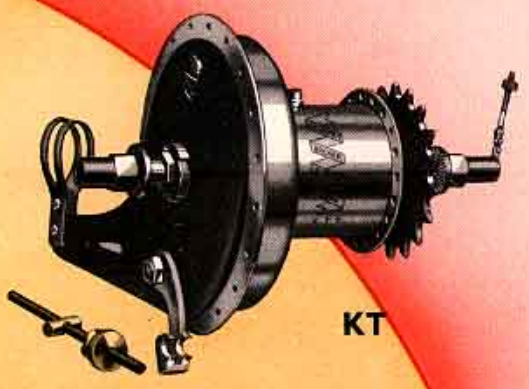
Records made with the AR Hub.

THE EDINBURGH-LONDON RUN. Distance 386 miles. This was made by "Sid." Ferris in 20 hours, 19 minutes, thus beating the previous record by 1 hour, 30 minutes, on June 3rd, 1937.

THE LAND'S END—JOHN O'GROATS RECORD by "Sid." Ferris, covering a distance of 870 miles in the remarkable time of 2 days, 6 hours, 33 minutes, thus beating the previous record by 2 hours, 28 minutes, July, 1937.

THE 1,000 MILES RECORD BY S. FERRIS in 2 days, 22 hours, 45 minutes, thus beating the existing record by the astonishing margin of 3 hours, 7 minutes, July, 1937.

THE LONDON — PORTSMOUTH AND BACK. Distance 137 miles, by James, covering the distance in 6 hours, 33 minutes, 57 seconds.



KT TANDEM STANDARD WIDE RATIO 3-SPEED HUB. Fitted with internal expanding brake with large diameter (4½) brake drum. Operated by cable-cum-rod brake control. 33⅓% increase from normal to high and 25% decrease from normal to low. Suitable for all types of tandems.

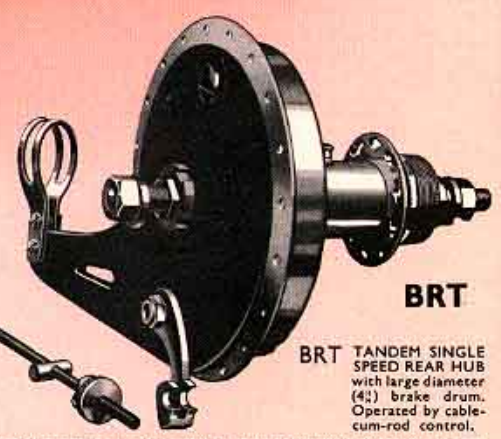
KTC Tandem 3-speed hub as above but with cable brake control. KT and KTC hubs can be supplied with 1¼" or 1½" chain lines.

K STANDARD WIDE RATIO 3-SPEED HUB. Of similar pattern to the original Sturmey 3-speed hub, the gears of the K hub are always in mesh and are entirely dustproof. A water-excluding device prevents the ingress of moisture, and the whole mechanism runs in oil. Gear changing is simplicity itself. A glance at the table relating to this hub will show what a wide variety of ratios are available. The gear ratios provided give an increase of 33⅓% from normal to high and 25% decrease from normal to low.

Suitable for tourist, sports and all types of roadster and tandem machines.

BFC FRONT HUB WITH INTERNAL EXPANDING BRAKE and cable control, suitable for sports and sports tourist machines.

BF hub similar to BFC but having rod brake control and suitable for tourist and roadster machines.



BRT TANDEM SINGLE SPEED REAR HUB with large diameter (4½) brake drum. Operated by cable-cum-rod control.

BRTC Tandem single speed rear hub as above, but with cable brake control.

Both BRT and BRTC hubs are made suitable for fitting derailleur gear.

Suitable for all types of tandems.

A COMPREHENSIVE RANGE

Sturmey-Archer Hubs provide a complete range of gears to suit every class of rider. Neat, light, totally enclosed, and oil bathed to ensure sweet and silky running, Sturmey-Archer Gears are renowned for their reliability under all riding conditions.

Sturmey-Archer Expanding Brake Hubs are delightfully smooth in action, and the exceptional strength and durability of the mechanism ensures long life and absolute efficiency. An important feature is that the defacing of the rim is entirely eliminated.

GUARANTEE

Sturmey-Archer Hubs (which expression shall include spare parts thereof) are guaranteed against defects of manufacture for a period of 12 months from the date of sale providing they are still the property of the first retail purchaser. This guarantee is subject to the conditions specified below. With all hubs we give a special guarantee instead of the guarantee implied by statute or otherwise as to the quality or fitness for the purpose of cycling of hubs supplied by us, any such implied guarantee being in all cases excluded.

We guarantee, subject to the conditions mentioned below, that all precautions which are usual and reasonable have been taken by us to secure excellence of materials and workmanship, but damage for which we make ourselves responsible under this guarantee is limited to the free supply of a new part in exchange for the part of the hub which may have proved defective, and does not include the cost of fitting.

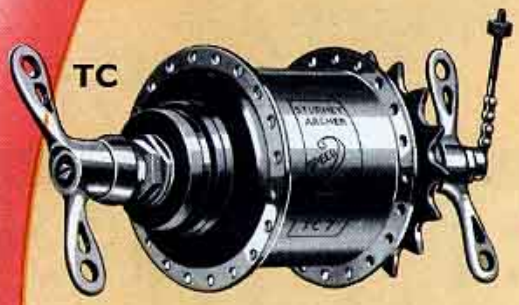
The purchaser shall not be entitled to claim any damage whatever, save replacement of the defective parts. This guarantee does not apply to defects caused by wear and tear, misuse or neglect.

If a defective part should be found in any of our hubs it must be sent to us carriage paid, accompanied by an intimation from the sender that he desires to have it replaced free of charge under our guarantee, and he must also furnish us at the same time with the date of purchase.

Failing compliance with the above no notice will be taken of anything which may arrive, but such articles will lie here at the risk of the senders and this guarantee shall not be enforceable. We guarantee only new hubs. A hub bought second hand is not guaranteed by us.

STURMEY ARCHER

THE TWO-SPEED CLOSE RATIO HUB



T.C. close-ratio 2 speed fixed or free gear

(13-46 REDUCTION)

TC 2-SPEED CLOSE RATIO HUB, Fixed Gear or Free Wheel. 13-46% reduction for low gear.

Wing nuts and quick release connections are standard fitments when supplied with fixed gear. Specially produced for clubmen and sporting riders who want a fixed gear hub with a closer ratio than the TF pattern, the new TC has rapidly established itself in the hearts of fast roadmen. All pinions are in Nickel Chrome steel, hardened and tempered to give long life and sweet running.

GEAR TABLE FOR "T.C." HUB.

Bracket Chain-Wheel	Hub Sprocket	26 in. Wheels Normal	26 in. Wheels Low	Bracket Chain-Wheel	Hub Sprocket	26 in. Wheels Normal	26 in. Wheels Low
40	14	74.2	64.2	46	14	85.4	73.9
	15	69.3	59.8		15	79.7	69
	16	65	56.25		16	74.7	64.6
	17	61.2	52.9		17	70.3	60.8
	18	57.8	50		18	66.4	57.5
	19	54.7	47.3		19	62.9	54.4
	20	52	45		20	59.8	51.7
42	14	78	67.5	48	14	89.1	77.1
	15	72.8	63		15	83.2	72
	16	68.2	59		16	78	67.5
	17	64.2	55.5		17	73.5	63.6
	18	60.7	52.5		18	69.3	59.9
	19	57.5	49.7		19	65.7	56.8
	20	54.6	47.3		20	62.4	54
44	14	81.7	70.7	50	14	92.9	80.4
	15	76.3	66		15	86.7	75
	16	71.5	61.9		16	81.3	70.4
	17	67.3	58.25		17	76.5	66.2
	18	63.6	55		18	72.2	62.5
	19	60.2	52.1		19	68.4	59.2
	20	57.2	49.5		20	65	56.3

Normal Gear is direct drive. Low Gear is a reduction of 13.46%.
Only the sprockets shown can be supplied.
Splined Freewheels of 16, 17, 18, 19 and 20 teeth can also be supplied.

GEAR RATIOS

STODDARD'S
874 WASHINGTON ST.
BOSTON MASS.

KS. 3-SPEED CLOSE RATIO GEAR TABLE

The following table shows the gears available with 26 in. wheels and 15 to 20 tooth hub sprockets.

Bracket Chain Wheel	Hub Sprocket	26 in. Wheels. Low	Normal	Top
40	15	61.6	69.3	77.9
	16	57.8	65	73.1
	17	54.4	61.2	68.9
	18	51.4	57.8	65
	19	48.6	54.7	61.5
	20	46.2	52	58.5
42	15	64.7	72.8	81.9
	16	60.6	68.3	76.7
	17	57.1	64.2	72.2
	18	54	60.7	68.2
	19	51.1	57.5	64.7
	20	48.5	54.6	61.4
44	15	67.8	76.3	85.8
	16	63.6	71.5	80.4
	17	59.9	67.3	75.7
	18	56.5	63.6	71.5
	19	53.5	60.2	68.2
	20	50.8	57.1	64.3
46	15	70.8	79.7	89.7
	16	66.4	74.7	84
	17	62.5	70.3	79.1
	18	59	66.4	74.7
	19	55.9	62.9	70.8
	20	53.2	59.8	67.3
48	15	74	83.2	93.6
	16	69.3	78	87.7
	17	65.3	73.5	82.7
	18	61.6	69.3	78
	19	58.4	65.7	73.9
	20	55.5	62.4	70.2
50	15	77.1	86.7	97.5
	16	72.3	81.3	91.4
	17	68	76.5	86.1
	18	64.2	72.2	81.2
	19	60.8	68.4	77
	20	57.8	65	73.1

The Gear Ratios give an increase of 12.5 per cent. above normal, and 11.1 per cent. reduction from normal to low gear.
15 to 20 tooth sprockets can be supplied.

KSW. 3-SPEED MEDIUM RATIO GEAR TABLE

The following table shows the gears available with 26 in. wheels.

Bracket Chain Wheel	Hub Sprocket	26 in. Wheels. Low	Normal	Top
40	15	58.4	69.3	80.8
	16	55.7	65	75.8
	17	52.5	61.2	71.4
	18	49.6	57.8	67.4
	19	46.5	54.7	63.8
	20	46	52	60.7
42	15	62.4	72.8	84.9
	16	58.5	68.2	79.6
	17	55	64.2	74.9
	18	52.1	60.7	70.8
	19	49.3	57.5	67.1
	20	46.8	54.6	63.7
44	15	65.4	76.3	89
	16	61.3	71.5	83.4
	17	57.7	67.3	78.5
	18	54.5	63.6	74.2
	19	51.6	60.2	70.2
	20	49.1	57.2	66.7
46	15	68.4	79.7	93
	16	64.1	74.7	87.2
	17	60.3	70.3	82.0
	18	56.9	66.4	77.4
	19	53.9	62.9	73.4
	20	51.3	59.8	69.8
48	15	71.3	83.2	97
	16	66.9	78	91
	17	63	73.5	85.7
	18	59.4	69.3	80.8
	19	56.3	65.7	76.6
	20	53.5	62.4	72.8
50	15	74.3	86.7	101.2
	16	69.7	81.3	94.8
	17	65.6	76.5	89.2
	18	61.9	72.2	84.3
	19	58.6	68.4	79.8
	20	55.7	65	75.8

The Gear Ratios give an increase of 16.6 per cent. above normal, and 14.3 per cent. reduction from normal to low gear.
15 to 20 tooth sprockets can be supplied.

K., KB., KBC. & KT. 3-SPEED STANDARD WIDE RATIO GEAR TABLE.

The following table shows the ratios obtainable with 26 and 28 in. wheels, and 16 to 20 tooth hub sprockets.

No. of Teeth on Bracket Chain Wheel	Hub Sprocket	26 in. Wheels. Low	Normal	High	28 in. Wheels. Low	Normal	High
40	16	48.8	65	86.7	52.5	70	93.3
	17	45.9	61.2	81.6	49.4	65.9	87.9
	18	43.4	57.8	77.1	46.6	62.2	82.9
	19	41	54.7	72.9	44.2	58.9	78.5
	20	39	52	69.3	42	56	74.7
42	16	51.2	68.2	90.9	55.1	73.5	98
	17	48.3	64.2	85.6	51.9	69.2	92.3
	18	45.5	60.7	80.9	49.0	65.3	87.1
	19	43.1	57.5	76.7	46.4	61.9	82.5
	20	41	54.6	72.8	44.1	58.8	78.4
44	16	53.6	71.5	95.3	57.8	77	102.7
	17	50.5	67.3	89.8	54.4	72.5	96.7
	18	47.7	63.6	84.8	51.3	68.4	91.2
	19	45.2	60.2	80.3	48.6	64.8	86.4
	20	42.9	57.2	76.3	46.3	61.6	82.1
46	16	56	74.7	99.6	60.4	80.5	107.3
	17	52.7	70.3	93.7	56.9	75.8	101.1
	18	49.8	66.4	88.5	53.6	71.5	95.3
	19	47.3	62.9	83.9	50.9	67.8	90.4
	20	44.9	59.8	79.7	48.3	64.4	85.9
48	16	58.5	78	104	63	84	112
	17	55.1	73.5	98	59.3	79.1	105.5
	18	52	69.3	92.4	56	74.7	99.6
	19	49.3	65.7	87.6	53	70.7	94.3
	20	46.8	62.4	83.2	50.4	67.2	89.6
50	16	61	81.3	108.4	65.6	87.5	116.7
	17	57.4	76.5	102	61.8	82.4	109.9
	18	54.2	72.2	96.3	58.4	77.8	103.7
	19	51.3	68.4	91.2	55.3	73.7	98.3
	20	48.8	65	86.7	52.5	70	93.3

The Gear Ratios provided are high gear 33⅓ per cent. above normal, and low gear 25 per cent. below normal. 22 tooth sprockets can also be supplied.

Specify

STURMEY ARCHER HUBS ON YOUR MACHINE!

LUBRICATION

We recommend all riders whose machines are fitted with Sturmey-Archer Hubs to use the STURMEY-ARCHER HUB LUBRICANT, a specially prepared and highly refined oil, which is obtainable from all Cycle Agents in 4-oz. sealed tins.
For instructions on maintenance, write for our lubrication and simple adjustment leaflet.

STURMEY-ARCHER GEARS
LIMITED
LENTON · NOTTINGHAM

Telephone : 75154 Telegrams : TRIPLE, Nottingham.